

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

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PCT

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing
(day/month/year)

24 JUL 2001

Applicant's or agent's file reference
09872-002WO1

IMPORTANT NOTIFICATION

International application No.
PCT/US00/01547

International filing date (day/month/year)
21 JANUARY 2000

Priority Date (day/month/year)
21 JANUARY 1999

Applicant
AT MOTION, INC.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

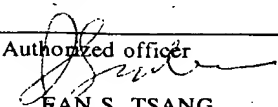
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 09872-002WO1	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/01547	International filing date (<i>day/month/year</i>) 21 JANUARY 2000	Priority date (<i>day/month/year</i>) 21 JANUARY 1999
International Patent Classification (IPC) or national classification and IPC IPC(7): H04M 3/493 and US Cl.: 379/88.04, 88.16, 88.17; 455/557; 704/9		
Applicant AT MOTION, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets.
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
 These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 21 AUGUST 2000	Date of completion of this report 30 JUNE 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  FAN S. TSANG
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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/01547

I. Basis of the report**1. With regard to the elements of the international application:***

- ☐ the international application as originally filed
- ☒ the description:
pages _____ (See Attached) _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the claims:
pages _____ (See Attached) _____, as originally filed
pages _____, as amended (together with any statement) under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the drawings:
pages _____ (See Attached) _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the sequence listing part of the description:
pages _____ (See Attached) _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages _____ NONE _____
- ☒ the claims, Nos. _____ NONE _____
- ☒ the drawings, sheets/fig _____ NONE _____

5. ☐ This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

**Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/01547

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. statement**

Novelty (N)	Claims <u>2-59</u>	YES
	Claims <u>1, 60</u>	NO
Inventive Step (IS)	Claims <u>5-40, 47-50, 52, and 54-56</u>	YES
	Claims <u>1-4, 41-46, 51, 53, 57-60</u>	NO
Industrial Applicability (IA)	Claims <u>1-60</u>	YES
	Claims <u>NONE</u>	NO

2. citations and explanations (Rule 70.7)

Claims 1 and 60 lack novelty under PCT Article 33(2) as being anticipated by Rhee (U.S. Patent No. 5,524,137). With respect to claim 1, the sound based command correspond to the keys pressed on the telephone, be it pulse or DTMF (touchtone) (see Fig. 4). The "machine readable commands" correspond to the command executed by Multimedia Messaging System (10) corresponding to the user entered commands sent over the Telephone (120). The "text-to-speech converter" reads on Fig. 3, step (347). The "router" reads on Fig. 1, Storage Processor (111). See also col. 2, lines 60-67. With respect to claim 60, "detecting the form of data" occurs during the various format and language conversions. "Storing the data for later retrieval" reads on the messages stored. "Storing information representing the current state of the system" reads on Fig. 4.

Claims 2-4 and 41-46 and 51 lack an inventive step under PCT Article 33(3) as being obvious over Rhee, as applied to claim 1, if applicable.

Claim 41, as it can best be understood, differs substantively from claim 1 in that claim 41 recites a method performed by the Universal Interface of claim 1. Therefore, see the claim 1 lack of novelty statement for any further details. Claim 41 also recite "converting speech from the user telephone to commands". "Official Notice" is taken that both the concept and advantages of the Multi-Media Messaging System (110) processing spoken commands by prompting the user to "If Audio Message Press or Say 1" instead of just "If Audio Message Press 1" (Fig. 4, Prompt Table 410) would have been well-known and expected in the art. The additional limitation directed to "storing information relating to the current state of the system" reads on User Message Table (420).

With respect to claims 2-4 and 42-44 "Official Notice" is taken that both the concept and advantages of a caller calling from a wireless or mobile telephone into the Multi-media Messaging System (110) would have been both well-known and expected in the art. See the claim 41 lack of inventive step (Continued on Supplemental Sheet.)

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

I. BASIS OF REPORT:

This report has been drawn on the basis of the description,
page(s) 1-30 , as originally filed.
page(s) NONE, filed with the demand.
and additional amendments:
NONE

This report has been drawn on the basis of the claims,
page(s) 31, 33-39, 43-44 , as originally filed.
page(s) NONE, as amended under Article 19.
page(s) NONE, filed with the demand.
and additional amendments:
Pages 32 and 40-42, filed with the letter of 11 June 2001.

This report has been drawn on the basis of the drawings,
page(s) 1-10 , as originally filed.
page(s) NONE, filed with the demand.
and additional amendments:
NONE

This report has been drawn on the basis of the sequence listing part of the description:
page(s) NONE, as originally filed.
pages(s) NONE, filed with the demand.
and additional amendments:
NONE

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):

statement for further details regarding the obviousness of speech recognition. Rhee teaches Touch-tone command entry (Col. 1, line 22) and this would have been an obvious addition because Rhee discloses that the Multi-Media Messaging System (110) accepts telephone keypad input (Fig. 4, Table 410).

With respect to claim 45, whenever the user logs on to the Multi-media Messaging System (110) ("upon command"), the Messaging System checks for the latest messages to the user (Fig. 3, step (345) (determine which data is most recent and updating all of the data to reflect the most recent). The data is "linked" in that all the message to the user are "linked" and presented to the user. This data is "exported" to the User's Stored Messages Table (420) on the Messaging System (110) (information system).

With respect to claims 46 and 51, see Prompt Table (410) for the different message types such as voice and e-mail (text).

Claim 53 an inventive step under PCT Article 33(3) as being obvious over Rhee, as applied to claim 41 above, and further in view of Vysotsky et al. (U.S. Patent No. 5,832,063) [Hereinafter Vysotsky].

Rhee fails to disclose, but Vysotsky teaches of a telephone based, speech recognition system that uses speaker dependent and independent templates (one or more models)(col. 1, lines 50-54).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to add one or more command recognition models as taught by the telephone based, speech recognition system of Vysotsky to the telephone based, speech recognition system of Rhee.

The suggestion/motivation for doing so would have been to increase speech recognition accuracy by user-friendliness and flexibility by not requiring the caller to speak additional commands or steering words (abstract and col. 1, lines 38-67).

Claim 57 lacks an inventive step under PCT Article 33(3) as being obvious over Rhee as applied to claim 41 above, and further in view of Hogan et al. (U.S. Patent No. 5,483,587) [Hereinafter Hogan].

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 11

Although Wise does not disclose the establishment of conference bridges, Hogan teaches all within the claims (abstract, Fig. 18, and col. 12, lines 1-18).

Therefore, it would have been obvious to a person of ordinary skill in the art to add establishment of conference bridges as taught by Hogan to the information retrieval system disclosed by Rhee.

The suggestion/motivation for doing so would have been that conference call capabilities are so widely used in today's business and industry that even equipment as elementary as telephones are provided with the ability to set up a conference call (Hogan, col. 1, lines 11-19). Therefore, the advantages of conference call capability would have been well-known to the designer of an information system using voice response. Finally, implementing the well-known concept of setting up a conference call automatically using automated response instead of manually using an operator increases efficiency. To that end, automation of a manual activity such as an operator manually setting up a conference as taught by Hogan (col. 1, lines 25-29) would have been an obvious addition.

Claims 58 and 59 lack an inventive step under PCT Article 33(3) as being obvious over Rhee as applied to claim 41 above, and further in view Gordon (U.S. Patent No. 5,608,786).

Although Rhee fails to disclose sending facsimiles to one or more fax machines or pagers, Gordon teaches of detecting a command to send a fax to a retrieved number (col. 2, lines 44-50 and col. 6, line 63 - col. 7, line 3). Gordon also teaches of detecting a command to send a pager request to a retrieved number (col. 2, lines 55-65, col. 9, lines 34-56). A fax and pager manager would be inherently required in order to actually send a message to a fax machine or pager.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to add the fax and paging capabilities as taught by Gordon to the information retrieval system disclosed by Rhee.

The suggestion/motivation for doing so would have been to increase flexibility and user-friendliness of an information retrieval system by supporting fax and paging. Both Gordon and Rhee are similar systems in that they disclose a user accessing an information retrieval system using a telephone in order to universally retrieve multimedia information from various information systems (Gordon, col. 7, lines 18-33). Therefore, the advantages of an information retrieval system that supports fax and paging capability would have been well-known to a designer of an information retrieval system.

Claims 5-40 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest in a universal interface that receives input from a user telephone and accesses information systems the following: 1) receiving data from an information system in the form of speech and converting that speech into commands and with respect to claim 5, sending the commands back to an interface control module that comprises the universal interface or with respect to claim 25, storing the commands as data for later access by the telephone user.

Claims 1-60 meet the criteria set out in PCT Article 33(4) because a universal interface for accessing information systems would have use in the universal messaging system industry having different messaging formats.

----- NEW CITATIONS -----

US 5,483,587 A (HOGAN et al.) 09 JANUARY 1996, see the written opinion.

US 5,832,063 A (VYSOTSKY et al.) 03 NOVEMBER 1998, see the written opinion.

to the information system; receiving data from the information system; detecting the form of the data from the information system; and storing information relating to a current state of the system;

5 a speech-to-text routing switch coupled to the interface control module for receiving data from the information system and control data from the interface control module;

10 a speech-to-command converter coupled to the interface control module for converting speech to commands, wherein the speech-to-command converter is coupled to the speech-to-text routing switch to receive speech and to forward commands to the interface control module;

15 an output switch coupled to the interface control module and the speech-to-text routing switch for receiving speech from the speech-to-text routing switch for receiving a control input from the interface control module, and for forwarding speech from the speech-to-text routing switch to the user telephone; and

20 a text-to-speech converter coupled to the output switch for receiving text from the interface control module, converting the text to speech, and forwarding the speech to the output switch to deliver speech to the user telephone.

25 6. The universal interface of claim 5, wherein the user telephone is a mobile telephone.

7. The universal interface of claim 5, wherein the input converter comprises a speech-to-command converter.

8. The universal interface of claim 5, wherein the input converter comprises a tone-to-command converter.

30 9. The universal interface of claim 5, wherein the interface control module integrates the data from the information system periodically or manually under user control, the interface control module further comprising:

means for retrieving data from the information systems;

35 means for determining antecedent comparable relevance of the data;

means for updating all of the data to reflect the most recent data;

PCT/US 11 JUN 2001

specific number of words.

39. The universal interface of claim 25, wherein the universal interface further comprises:

- means for detecting a first language in which the
- 5 commands from the user telephone are received;
- means for detecting a second language associated with the data received from the information system; and
- means for converting the data from the information
- 10 system into the first language.

40. The universal interface of claim 39, wherein the universal interface further comprises means for detecting more than one language within a single fragment of data.

41. A method for providing data from one or more information systems to a user telephone, comprising the

- 15 steps of:
- converting speech from the user telephone to text;
- determining the information system to be accessed;
- converting the text to commands recognizable by the information system;
- 20 forwarding the converted commands to the information system;
- receiving data from the information system;
- detecting the form of the data from the information system;

25 converting non-speech data from the information system into speech;

forwarding the speech data to the user telephone; and

storing information relating to the current state of the system.

30 42. The method of claim 41, wherein converting speech from the user telephone further comprises converting speech from a mobile telephone.

43. The method of claim 41, wherein converting speech from the user telephone to commands further comprises converting speech to commands.

44. The method of claim 41, wherein converting speech from the user telephone to commands further comprises converting dual-tone-multiple-frequency (DTMF) information to commands.

45. The method of claim 41, further comprising
synchronizing the data from the information systems by
periodically, or upon command:

retrieving data from the information systems;
5 comparing the data to determine which data is most
recent;

updating all of the data to reflect the most recent
data;

linking relevant data; and
10 exporting the linked data to the information systems.

46. The method of claim 45, wherein the information systems
comprise two or more of the following:

a calendar;
a to-do list;
15 an address book;
voice mail;
e-mail; and
a web site.

47. The method of claim 41, further comprising integrating
20 and synchronizing (i) a database of a personal information
manager, (ii) a database of a personal digital assistant,
and (iii) a database residing in a universal interface, by:

receiving data from the personal digital assistant;
receiving data from the universal interface;
25 detecting a synchronization event, wherein the event is
triggered by a request for synchronization of the database
of the personal digital assistant with the database of a
personal information manager;

transmitting data, via an electronic mail system, to the
30 the interface control module; and
updating the data in each of the databases to reflect
the most recent data entered into any one database.

48. The method of claim 47, wherein the synchronization
information is sent to the universal interface either in its
35 entirety, in compressed form, or in incremental form.

49. The method of claim 48, further comprising sending the
data from the information system to the universal interface
over the Internet.

50. The method of claim 49, further comprising encrypting the data from the information system before sending the encrypted data over the Internet.
51. The method of claim 41, wherein the information system is comprised of at least one of: a voice mail system, and an electronic mail system, a web site, and a personal information manager.
52. The method of claim 41, wherein storing information relating to the current state of the system further comprises the steps of determining:
- whether the voice commands are being received from a user telephone;
 - the information system to be accessed;
 - whether the voice commands, after being converted to text, have been converted into commands recognizable by the information system;
 - whether the converted commands have been forwarded to the information system;
 - whether data has been received from the information system;
 - whether data from the information system is speech or text;
 - the state of the speech-to-text routing switch; and
 - the state of the output switch.
53. The method of claim 41, wherein converting the text to commands recognizable by the information system further comprises accessing one or more models for converting commands from the telephone into commands recognizable by the information system.
54. The method of claim 41, further comprising:
- receiving a command from the user telephone signaling that the user telephone has received unintelligible words;
 - ceasing communication to the user telephone;
 - restarting communication to the user telephone at a point a specified number of words back from the point at which the communication ceased;
 - forwarding the first specified number of words by spelling the words out; and